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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,750	05/24/2001	Billy G. Moon	062891.0568	1922

7590 07/16/2004

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EXAMINER

BRANCOLINI, JOHN R

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/864,750	MOON, BILLY G.	
	Examiner	Art Unit	
	John R Brancolini	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-38 are pending in the application.

Priority

No claim for priority has been made. The effective filing date is May 24, 2001.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 1 item 23.

Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because of the language used, most notably: the repetition of the title, and the use of "is disclosed". Correction is required.

See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Xu et al. (US Patent 6738362), hereinafter referred to as Xu.

In regards to claim 1, Xu discloses a method for registering a mobile object with a foreign network, comprising:

- Executing a mobile object on a first virtual machine at a first router on a foreign network (col 6 lines 65-67).
- Generating a care-of-name for the mobile object at a foreign object agent located on the foreign network (the foreign agent initiates the registration process, which when dealing with a network device includes any identifiers and appropriate security information, or in the case of a mobile device on a foreign network, a care of name to be associated with the care of address, col 7 lines 1-12, col 4 line 55 – col 5 line 4 also briefly discusses transferring identifiers and security information when registering on a mobile network).
- Communicating the care-of-name to a home object agent located on a home network (the registration information is sent to the home agent, including all associated identifiers, col 7 lines 3-7).
- Generating a mobility binding for the mobile object at the home object agent, the mobility binding including the care-of-name (the home agent responds to the registration request with a care of address which binds the mobile user to the home agent, col 7 lines 13-23).

In regards to claim 2, Xu discloses providing an object name associated with the mobile object to the foreign object agent to create the care-of-name (each mobile device

contains unique identifiers used to create a name for the device on the foreign network in the registration process, the identifiers used to associate a device to any given registration attempt, col 7 lines 25-31 for an example).

In regards to claim 3, Xu discloses the care-of-name comprises an object name associated with the mobile object and an extension name to uniquely identify the mobile object on the foreign network (an extension name is provided for identifying the mobile object, col 8 lines 3-20).

In regards to claim 4, Xu discloses the home object agent operable to maintain network location information for the mobile object (the home object maintains network location information for the mobile device through use of the care of address supplied by the foreign agent, col 7 lines 13-18).

In regards to claim 5, Xu discloses:

- Discovering the foreign object agent on the foreign network (the foreign agent discovers the mobile device, col 6 lines 63-67, by receiving a broadcast message from the mobile device).
- Receiving an address associated with the foreign object agent at the mobile object (the mobile device sends registration information to the foreign agent, which would include an address, col 6 lines 63 – col 7 line 12).

In regards to claim 6, Xu discloses locating the mobile object on the foreign network by using the care-of-name associated with the mobility binding (the home agent can use the registration information provided by the foreign agent to locate the mobile object on the network for tunneling information, col 7 lines 25-45).

In regards to claim 7, Xu discloses determining if the mobile object is authorized to negotiate with the foreign object agent based on object credentials associated with the mobile object (the home agent authorizes the mobile object to negotiate with the foreign agent to access the network, col 7 lines 3-12).

In regards to claim 8, Xu discloses:

- Determining if the mobile object is authorized to negotiate with the foreign object agent based on object credentials associated with the mobile object (the home agent authorizes the mobile object to negotiate with the foreign agent to access the network, col 7 lines 3-12).
- Providing authorization for the foreign object agent to communicate with the home object agent based on agent credentials associated with the foreign object agent if the mobile object is authorized to negotiate with the foreign object agent (once the mobile device has been determined to be authorized to negotiate with the foreign agent, the home agent creates a pathway between the home and foreign agents for communication, col 7 lines 13-24).

In regards to claim 9, Xu discloses:

- Determining if the mobile object is authorized to negotiate with the foreign object agent based on object credentials associated with the mobile object (the home agent authorizes the mobile object to negotiate with the foreign agent to access the network, col 7 lines 3-12).
- Providing authorization for the foreign object agent to communicate with the home object agent based on agent credentials associated with the foreign object agent if the mobile object is authorized to negotiate with the foreign object agent (once the mobile device has been determined to be authorized to negotiate with the foreign agent, the home agent creates a pathway between the home and foreign agents for communication, col 7 lines 13-24).
- Authenticating the object credentials at the home object agent to create the mobility binding for the mobile object if the foreign object agent receives authorization to communicate with the home object agent (once the above two steps have been completed, the binding to the home agent is created, having already authorized the mobile client beforehand, col 7 lines 3-12).

In regards to claim 10, Xu discloses:

- Copying the mobile object to create a duplicate mobile object on a second virtual machine at a second router located on the foreign network (the mobile device can be transferred to a second router on the foreign network, col 8 line 57 – col 9 line 11).

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- Creating a duplicate mobility binding at the home agent for the duplicate mobile object by obtaining a duplicate care-of-name from the foreign object agent (the home agent binding is copied to the new foreign agent location, col 8 line 57 – col 9 line 11).

In regards to claim 11, Xu discloses:

- Moving a portion of the mobile object to a second virtual machine at a second router located on the foreign network (the mobile device can be partially transferred to a second router on the foreign network, col 8 line 57 – col 9 line 11).
- Creating a secondary mobility binding at the first router for the portion of the mobile object by obtaining a secondary care-of-name from the foreign object agent (the home agent binding is copied to the new foreign agent location, col 8 line 57 – col 9 line 11).

In regards to claim 12, Xu discloses a method for registering a mobile object with a foreign network, comprising:

- Executing a mobile object on a virtual machine at a router on a foreign network (col 6 lines 65-67).
- Generating a care-of-name for the mobile object at a foreign object agent located on the foreign network (the foreign agent initiates the registration process, which when dealing with a network device includes any identifiers and appropriate

security information, or in the case of a mobile device on a foreign network, a care of name to be associated with the care of address, col 7 lines 1-12, col 4 line 55 – col 5 line 4 also briefly discusses transferring identifiers and security information when registering on a mobile network).

- Communicating the care-of-name to a home object agent located on a home network (the registration information is sent to the home agent, including all associated identifiers, col 7 lines 3-7).
- Generating a mobility binding for the mobile object at the home object agent, the mobility binding including the care-of-name (the home agent responds to the registration request with a care of address which binds the mobile user to the home agent, col 7 lines 13-23).
- Locating the mobile object on the foreign network by using the care-of-name associated with the mobility binding (the home object maintains network location information for the mobile device through use of the care of address supplied by the foreign agent, col 7 lines 13-18).

In regards to claim 13, Xu discloses the care-of-name comprises an object name associated with the mobile object and an extension name to uniquely identify the mobile object on the foreign network (each mobile device contains unique identifiers used to create a name for the device on the foreign network in the registration process, the identifiers used to associate a device to any given registration attempt, col 7 lines 25-31 for an example).

In regards to claim 14, Xu discloses:

- Generating a care-of-address associated with the care-of-name for the mobile object at the foreign object agent (the foreign object receives information from the home agent, used to create a care-of-address for the mobile agent, col 7 lines 13-23).
- Establishing a tunnel between the home object agent and the mobile object by using the care-of-address as an endpoint of the tunnel (the tunnel is created between the home agent and the mobile object, col 7 lines 13-23)

In regards to claim 15, Xu discloses the care-of-address comprises an Internet Protocol address (col 7 lines 13-18).

In regards to claim 16, Xu discloses the home object agent operable to maintain network location information for the mobile object (the home object maintains network location information for the mobile device through use of the care of address supplied by the foreign agent, col 7 lines 13-18).

In regards to claim 17, Xu discloses a router comprising a virtual machine configured to host a mobile object, the mobile object operable to:

- Negotiate with a foreign object agent located on a foreign network for a care-of-name (after supplying the foreign agent with registration information including

name and security identifiers, the foreign agent initiates the registration process, which when dealing with a network device includes any identifiers and appropriate security information, or in the case of a mobile device on a foreign network, a care of name to be associated with the care of address, col 7 lines 1-12, col 4 line 55 – col 5 line 4 also briefly discusses transferring identifiers and security information when registering on a mobile network).

- Obtain a mobility binding from a home object agent located on a home network by using the care-of-name (the home agent responds to the registration request with a care of address which binds the mobile user to the home agent, col 7 lines 13-23).

In regards to claim 18, Xu discloses the mobile object operable to provide an object name associated with the mobile object to the foreign object agent (each mobile device contains unique identifiers used to create a name for the device on the foreign network in the registration process, the identifiers used to associate a device to any given registration attempt, col 7 lines 25-31 for an example).

In regards to claim 19, Xu discloses the care-of-name comprises an object name associated with the mobile object and an extension name that uniquely identifies the mobile object on the foreign network (an extension name is provided for identifying the mobile object, col 8 lines 3-20).

In regards to claim 20, Xu discloses the home object agent operable to:

- Host the mobile object on the home network.
- Maintain network location information for the mobile object.

In regards to claim 21, Xu discloses the home object agent operable to:

- Discover the foreign object agent on the foreign network through an agent solicitation message (the foreign agent sends a message to the home agent, col 7 lines 3-12).
- Receive an address associated with the foreign object agent (in the above message, the foreign agent supplies an address)

In regards to claim 22, Xu discloses an agent virtual machine configured to host the foreign object agent (col 6 line 63 – col 7 line 12).

In regards to claim 23, Xu discloses the mobile object operable to:

- Create a duplicate mobile object operable to be hosted on a duplicate virtual machine at a duplicate router on the foreign network (the mobile device can be transferred to a second router on the foreign network, col 8 line 57 – col 9 line 11).
- Obtain a duplicate mobility binding from the home object agent by receiving a duplicate care-of-name from the foreign object agent (the home agent binding is copied to the new foreign agent location, col 8 line 57 – col 9 line 11).

In regards to claim 24, Xu discloses the mobile object operable to:

- Move a portion of the mobile object to a duplicate virtual machine at a duplicate router on the foreign network (the mobile device can be partially transferred to a second router on the foreign network, col 8 line 57 – col 9 line 11).
- Obtain a secondary mobility binding at the router for the portion of the mobile object by obtaining a secondary care-of-name from the foreign object agent (the home agent binding is copied to the new foreign agent location, col 8 line 57 – col 9 line 11).

In regards to claim 25, Xu discloses:

- The mobile object operable to send object credentials to the foreign object agent to obtain authorization to negotiate with the foreign object agent (the home agent authorizes the mobile object to negotiate with the foreign agent to access the network, col 7 lines 3-12).
- The mobile object obtaining the mobility binding if the home object agent provides authorization for the foreign object agent to communicate with the home object agent and authenticates object credentials associated with the mobile object (once the above step has been completed, the binding to the home agent is created, having already authorized the mobile client beforehand, col 7 lines 3-12).

In regards to claim 26, Xu discloses logic encoded in media for registering a mobile object with a foreign network, the logic operable to perform the following steps:

- Executing a mobile object on a first virtual machine at a first router on a foreign network (col 6 lines 65-67).
- Generating a care-of-name for the mobile object at a foreign object agent located on the foreign network (the foreign agent initiates the registration process, which when dealing with a network device includes any identifiers and appropriate security information, or in the case of a mobile device on a foreign network, a care of name to be associated with the care of address, col 7 lines 1-12, col 4 line 55 – col 5 line 4 also briefly discusses transferring identifiers and security information when registering on a mobile network).
- Sending the care-of-name to a home object agent located on a home network (the registration information is sent to the home agent, including all associated identifiers, col 7 lines 3-7).
- Generating a mobility binding for the mobile object at the home object agent, the mobility binding including the care-of-name (the home agent responds to the registration request with a care of address which binds the mobile user to the home agent, col 7 lines 13-23).

In regards to claim 27, Xu discloses providing an object name associated with the mobile object to the foreign object agent to create the care-of-name (each mobile device contains unique identifiers used to create a name for the device on the foreign

network in the registration process, the identifiers used to associate a device to any given registration attempt, col 7 lines 25-31 for an example).

In regards to claim 28, Xu discloses the care-of-name comprises an object name associated with the mobile object and an extension name that uniquely identifies the mobile object on the foreign network (an extension name is provided for identifying the mobile object, col 8 lines 3-20).

In regards to claim 29, Xu discloses the home object agent operable to maintain network location information for the mobile object (the home object maintains network location information for the mobile device through use of the care of address supplied by the foreign agent, col 7 lines 13-18).

In regards to claim 30, Xu discloses:

- Discovering the foreign object agent on the foreign network (the foreign agent discovers the mobile device, col 6 lines 63-67, by receiving a broadcast message from the mobile device).
- Receiving an address associated with the foreign object agent at the mobile object (the mobile device sends registration information to the foreign agent, which would include an address, col 6 lines 63 – col 7 line 12).

In regards to claim 31, Xu discloses determining if the mobile object is authorized to negotiate with the foreign object agent based on object credentials associated with the mobile object (the home agent can use the registration information provided by the foreign agent to locate the mobile object on the network for tunneling information, col 7 lines 25-45).

In regards to claim 32, Xu discloses:

- Determining if the mobile object is authorized to negotiate with the foreign object agent based on object credentials associated with the mobile object (the home agent authorizes the mobile object to negotiate with the foreign agent to access the network, col 7 lines 3-12).
- Providing authorization for the foreign object agent to communicate with the home object agent based on agent credentials associated with the foreign object agent if the mobile object is authorized to negotiate with the foreign object agent (once the mobile device has been determined to be authorized to negotiate with the foreign agent, the home agent creates a pathway between the home and foreign agents for communication, col 7 lines 13-24).

In regards to claim 33, Xu discloses:

- Determining if the mobile object is authorized to negotiate with the foreign object agent based on object credentials associated with the mobile object (the home

agent authorizes the mobile object to negotiate with the foreign agent to access the network, col 7 lines 3-12).

- Providing authorization for the foreign object agent to communicate with the home object agent based on agent credentials associated with the foreign object agent if the mobile object is authorized to negotiate with the foreign object agent (once the mobile device has been determined to be authorized to negotiate with the foreign agent, the home agent creates a pathway between the home and foreign agents for communication, col 7 lines 13-24).
- Authenticating the object credentials at the home object agent to create the mobility binding for the mobile object if the foreign object agent receives authorization to communicate with the home object agent (once the above two steps have been completed, the binding to the home agent is created, having already authorized the mobile client beforehand, col 7 lines 3-12).

In regards to claim 34, Xu discloses:

- Copying the mobile object to create a duplicate mobile object on a second virtual machine at a second router located on the foreign network (the mobile device can be transferred to a second router on the foreign network, col 8 line 57 – col 9 line 11).
- Creating a duplicate mobility binding at the home agent for the duplicate mobile object by obtaining a duplicate care-of-name from the foreign object agent (the

home agent binding is copied to the new foreign agent location, col 8 line 57 – col 9 line 11).

In regards to claim 35, Xu discloses:

- Moving a portion of the mobile object to a second virtual machine at a second router located on the foreign network (the mobile device can be partially transferred to a second router on the foreign network, col 8 line 57 – col 9 line 11).
- Creating a secondary mobility binding at the first router for the portion of the mobile object by obtaining a secondary care-of-name from the foreign object agent (the home agent binding is copied to the new foreign agent location, col 8 line 57 – col 9 line 11).

In regards to claim 36, Xu discloses an apparatus for registering a mobile object with a foreign network, comprising:

- Means for executing a mobile object on a first virtual machine at a first router on a foreign network (col 6 lines 65-67).
- Means for generating a care-of-name for the mobile object at a foreign object agent located on the foreign network (the foreign agent initiates the registration process, which when dealing with a network device includes any identifiers and appropriate security information, or in the case of a mobile device on a foreign network, a care of name to be associated with the care of address, col 7 lines 1-

12, col 4 line 55 – col 5 line 4 also briefly discusses transferring identifiers and security information when registering on a mobile network).

- Means for communicating the care-of-name to a home object agent located on a home network (the registration information is sent to the home agent, including all associated identifiers, col 7 lines 3-7).
- Means for generating a mobility binding for the mobile object at the home object agent, the mobility binding including the care-of-name (the home agent responds to the registration request with a care of address which binds the mobile user to the home agent, col 7 lines 13-23).

In regards to claim 37, Xu discloses the care-of-name comprises an object name associated with the mobile object and an extension name to uniquely identify the mobile object on the foreign network (an extension name is provided for identifying the mobile object, col 8 lines 3-20).

In regards to claim 38, Xu discloses means for locating the mobile object on the foreign network by using the care-of-name associated with the mobility binding (the home agent can use the registration information provided by the foreign agent to locate the mobile object on the network for tunneling information, col 7 lines 25-45).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Bergenwall et al. (US Patent 6721291), a system for binding a mobile device to a home agent utilizing a care-of-address.

Ahmed et al. (US Patent 6256300), mobility management system for a multimedia network including location tracking and home agent binding.

Khalil et al. (US Patent 6430698), a virtual home agent protocol including tunneling and mobile device tracking and managing.

Tsukagoshi (US Patent 6058311), identifying mobile devices at foreign agents.

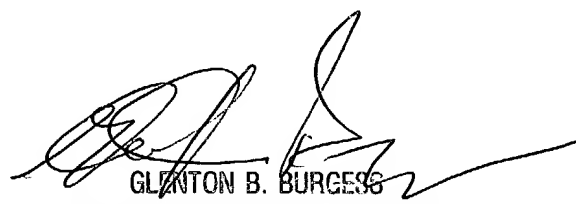
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R Brancolini whose telephone number is (703) 305-7107. The examiner can normally be reached on M-Th 7am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRB



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